RM-11785 REPLY COMMENTS TO VARIOUS FILERS BY JANIS CARSON AB2RA

Please consider these comments filed March 20, 2017 before closing, as timely filed. In any event, these are being filed as "reply comments" which are subject to a period after the regular filings.

I wish to agree first with Matthew Pitts, N8OHU, filed Mar 16, 2017:

"I support the expansion of the 60 Meter band from the current 5 channels to 4 channels and a contiguous segment with VFO use. I do NOT support exceeding the current power limit in any segment that we gain, and would prefer that the new segment be lower power; **between the internationally indicated 15 watts and 30 watts** as suggested by Janis Carson. I also **do not agree that antenna changes are needed**, as maritime users of SailMail can generally pass messages via RF with antennas that could easily be much more restrictive in capabilities than those permitted to hams on similar bands. I also find it unnecessary and potentially counterproductive to make any adjustments to the modes permitted on 60 meters at this time."

We agree in the **potential that this frequency allocation presents for digital, CW and narrow band use, without the hampering of channelized (single signal in the channel) rules**. I also wish to restate that 4 existing channels at 100 watts allow for wide band SSB and wide band digital modes. Such wide band signals are incompatible with lower power narrow band digital signals. **Many signals can share this new small 15 KHz segment, if they are all narrow band width (500 Hz max), and restricted to 30 watts.** This is the power level that a typical amateur transceiver can manage on a digital mode without exceeding its distortion and power capabilities. More than 30 watts should not be allowed in this segment, since those stations would monopolize the channel, and also propagate much farther than the conversation that those stations are attempting to conduct. This runs contrary to the principle of amateur practice of using the minimum bandwidth and power level necessary to maintain communications. This 30 watt level adequately protects primary users. It also protects possible maritime installations (backstay antennas) and emergency operations (portable antennas) running on battery or emergency power. Foreign amateur operators will not be operating at high power, and may not be able to access this resource. Anything in excess of the existing 100 watts, even in the existing channelized section is unwise for those reasons.

I celebrate that Matthew Pitts and I find common ground to promote constructive use of this valuable new resource.

I could support wide band digital modes like Pactor4, ARDOP, or STANAG, but only on the existing 4 channels.

I do wish to caution FCC that due to the potential interference to primary users, **NO UNATTENDED operations such as ACDS (automatically controlled digital stations) or stations under 97.221 or 97.213's telecommand provisions should be allowed on 60 meters.** We need to clarify the FCC rules on this issue for the other amateur allocations; any reasonable person knows the difference between a "human" and a "robot"; likewise, attended and remote control. The obvious consequence for primary users should not be dismissed.

Likewise, the separation of wide band data and narrow band signals is a "generally accepted standard" in the IARU band plans prevalent in the rest of the world. The US is not unique in separating incompatible signals and modes by statute (Part 97); likewise, Japan and other technically advanced nations.

Even a properly adjusted SSB transmitter emits some distortion products. In a narrow allocation of only 15 KHz, SSB mixed with narrow band modes severely limits the number of stations that can efficiently use it. I therefore advocate that the new non channelized 60 meter allocation be limited to 30 watts max and 500 Hz band width, leaving the original channels for wide band and high power.

Amateur transceivers are commonly rated for 100 watts at CW or SSB, **but overheat or cause distortion products when used at more than 30 watts on digital modes**.

A US government paper promoting the use of narrow band "clover" for emergency communications can be found at:

http://permanent.access.gpo.gov/websites/www.ncs.gov/library/tech_notes/tn_vol7n6.pdf

The recent ARRL "Cascadia Rising" emergency exercise uses wide band digital but also employed narrower clover digital mode.

I also welcome the insight presented by Danny Douglas Mar 13, 2017:

"We need to insure that American hams can operate equally with the rest of the world, on 60 meters. Please get rid of the small number of channels, and allow operations across the 60 meter spectrum, so we, here in the USA can operate the same frequencies as our friends overseas. I do NOT believe we need to use high power for these frequencies, as we do quite well with 100-200 watts on the 80 and 40 meter bands which bracket 60 meters. **All big power does, is encourage the interference from other amateur operators because they decide to increase their power, because they need to get "over" us on the receiving band."**

I absolutely agree that our allocations would best be **aligned with IARU Region 2,** as well as other regions, and be at a **commensurate power level**. Excessive power such as more than 100 watts would create interference for primary users, and not make for international good will.

I wish to applaud the experience and experimentation by Alan Zaur Mar 17, 2017

"I strongly support the relaxation of rules regarding Amateur Radio Service use of the 60 meter band. De-channelizing the 60 meter band will allow **better use of the available spectrum.** Several morse code conversations can occupy a single "channel" without excessive interference. Removing the restriction on antennas will allow amateurs who currently have wide-band antennas (eg: **horizontal loop antennas**) to operate on the 60 meter band without worry that they are exceeding the antenna gain requirement. Relaxing the restrictions will increase the occupancy of the band which will lead to additional amateur operators gaining experience with propagation on this band."

Narrow band (500 Hz) digital or CW mode should be allowed in the new non channelized segment, to maximize the efficient use of this valuable spectrum. There are 4 existing wide band channels, at 100 watts. A separate non channelized narrow band segment would allow about 30 separate conversations in the new 15 KHz segment. **Full-wave horizontal loop antennas are very effective for NVIS short to medium range communication.** Bonnie Crystal, KQ6XA has designed a clever broadband horizontal antenna for Automatic Link Establishment (ALE) that is very efficient and superior for Near Vertical Incident (NVIS) short to medium range signals that would be most useful for emergency communications.

http://hflink.com/antenna/#BTSL

KQ6XA is a recognized expert in 60 meter and emergency communications, by her work published on HFLINK. I am surprised that she has not weighed in on this filing. Just how to exactly compare this antenna with a reference dipole in the intended direction is problematic. The loop described on that web page is not a directive antenna that would cause interference for primary users. However, the loop would be more efficient for short ranges than a reference dipole. On the other hand, a dipole installed a half wave above ground would have low angle lobes that might cause problems for distant users. **So some sensible relaxation in antenna design seems sensible. I am delighted this filer is bringing this to the FCC's attention.**

I would generally agree with Kris Merschrod, KM2KM Mar 13, 2017:

"REF: 60 meter Amateur Radio Band We have shared this on a secondary basis with other services and from my daily experience we have not had, nor caused interference problems. The present channel system is positive. I would like to have more channels so that we overlap with the EU frequency allocation 100 watts of power is fine - we have covered the world with this ERP, and we have solid local nets. **Increased power is NOT needed.** KM2KM (Radio Operator since 1982)"

I agree that **any power level above 100 watts is unwarranted and risky to primary users.**

Another filer, David Greer Mar 13, 2017 states:

“I am unaware of any complaints from other 5 MHz users regarding interference on 60m. For this reason, I would like to see VFO operation across the entire 15 KHz ITU segment and eliminate the five channels to make it equal in bandwidth to that used by the Europeans. The EU seems to be the trendsetter these days and we should be keeping up with them. I also request that the power limit be increased to 200 watts; **similar to the power limit for USA amateurs on our 10.1-10.15 MHz** allocation. A higher power limit would permit more effective communications for health and welfare, particularly to the Caribbean. The 15 watt EIRP limit set by the ITU would render this allocation all but usless for emergency communications. (It's known that if there are no interference complaints from other users, power restrictions can be raised.) For the next several years, solar activity is predicted to be at an all-time low which makes more power more important than ever, especially if needed during a disaster.”

I think he presents some important concepts. **He has pointed out that our 10.1 - 10.15 MHz or 30 meter band has excellent utility for narrow band digital and CW modes. It has been proven an asset at that maximum 200 watt power level.** I agree with him that this general power level of 100 to 200 watts is the absolute maximum that should be considered. **I believe that the 30 meter band is limited at 200 watts because there are primary users we share it with. So I favor a level of 30 watts for the new non channelized 60 meter band, to protect primary users.** Amateur transceivers are rated for 100 watts at CW or SSB, **but overheat or cause excess distortion products when used at more than 30 watts on digital modes**. The existing channelized portion allows full use of the 100 watts SSB capabilities of the same radio which can be used in the new proposed non channelized portion. **FCC needs to separate the incompatible modes and band widths** by regulation to protect the appropriate use of this spectrum. **The statutory band width and power should be 30 watts and 500 Hz maximum bandwidth in the new non channelized segment.** This protects the primary users and other new amateur operations from incompatible excessive power and band width.

THERE ARE A NUMBER OF CUT AND PASTE COMMENTS WITH IDENTICAL TEXT:

There were 33 total "cut and paste" comments, with the exact same wording. 9 of the following gave amateur call signs when filing. 24 had no call sign listed. Those may not have any legal "standing" as interested parties. **3 are invalid because they did not give a valid name**. They either stated as their name the numeral "1" and filed duplicate addresses and comments, or filed under then filer name of "RM-11785" which is invalid.

The FCC needs to be wary of such "cut and paste" comments from people who may not have "standing". While I have no problem with filers who have valid call signs agreeing with each other, perhaps some thought needs to be given to the rest.

In any event, **requesting 500 watts far exceeds the ARRL recommendation of 100 watts**. **It also far exceeds the IARU generally accepted standards of 15 watts for the rest of the world.** It does not agree with observations stated above by another filer regarding the utility of a 200 watt max digital/CW band of 30 meters or 10.1 MHz. And I take exception also, and recommend not more than 30 watts max, 500 Hz max, in the new non channelized 60 meter allocation. There are 4 wide band SSB/DATA channels at 100 watts available to satisfy the need for higher power levels. The intended use of 60 meters is for emergency communications at medium to short range. **If longer range communications is needed, with wider band width and higher power levels up to 1500 watts PEP, the user should select a different band appropriate to that use.**

Janet Pater Mar 16, 2017
RM-11785 given as name of filer, address provided, invalid no name - Mar 16, 2017
1 (No name, but address provided, same address as below, duplicate, also invalid) Mar 16, 2017
Willem Winkel WP3UX Mar 15, 2017
1 (No name, but address provided, invalid) Mar 16, 2017
Gayle Shalvoy Mar 15, 2017
Chris Shalvoy Mar 15, 2017
Eugene B. Fuller Mar 15, 2017
Dr Hugh Valentine Mar 15, 2017
Robert W. Brockman WX4G Mar 14, 2017
Dennis Motschenbacher K7BV,Lieska Sia Motschenbacher KI6ZVY Mar 14, 2017
Ralph David Mayo Mar 14, 2017
Frederick A Bennett II NZ4DX Mar 14, 2017
Garry Fisher,Sharon Fisher Mar 14, 2017
Joe Simpkins K4MD Mar 13, 2017
Mark McMillan W7MEM Mar 14, 2017

Paul Sturpe Mar 13, 2017
John R. Sproat, Jr. Mar 13, 2017
Irving L. McWherter,Sandra D. McWherter Mar 13, 2017
Ira Hosid Mar 13, 2017
Daniel P Schaaf K3ZXL Mar 13, 2017
Harold Ross Lambert Mar 13, 2017
Robert Goettel Mar 13, 2017
Michael Goltz Mar 13, 2017
Henry Kierrnan Mar 13, 2017
Charles K. Epps Mar 13, 2017 - same wording except 1500 watts max
William Verebely W4WV Mar 13, 2017
Robert W Spratt Mar 13, 2017
COL John W Harden Jr Mar 13, 2017
MILTON K. MILLER Mar 13, 2017
Larry G. Ross Mar 13, 2017
Gene Sochor N9SW Mar 13, 2017
Joseph Pater Mar 13, 2017

"I am not aware of any complaints of interference on 60m. For this reason, I would like to see the VFO operation across the entire segment and **eliminate the five channels** to make it equal in bandwidth to that used by the Europeans. The EU seems to be the trendsetter these days and we should be keeping up with them. **I also request that the power limit be increased to 500 watts.** A higher power limit would be more effective communications for health and welfare, particularly to the Caribbean. For the next 11 years, the solar activity is predicted to be at an all-time low which makes more power more important than ever, especially if needed during a disaster. In order to conduct reliable communications in the time of a disaster, better antenna systems will also be needed. **Therefore, I also ask that antenna restrictions be lifted.**"

I have no problem of various people sharing the same viewpoint. A bulk filing like this, on the same date, is suspect if without a call sign indicating they have "standing".

Further, a request of 500 watts is discordant with IARU standards, practice in the rest of the world, and well out of line with ARRL's request for 100 watts.

OTHER DUPLICATE FILINGS:

There are three other duplicate filings. All have identical wording:

Frank Scolaro W2YK Mar 17, 2017
Wade Davis Mar 17, 2017
Richard Williams Mar 17, 2017
Wilson A. Caselli Mar 17, 2017

"1. Eliminate the channelized restrictions and allow full use of the spectrum including more efficient digital modes like Morse code. One signal can operate per channel while ten operators could use the equivalent frequency with CW. 2. Eliminate the 0dBd gain antenna restriction. This frequency in particular relies on multi-skip propagation for effective communication. Antennas with greater than 0dBd gain are essential for full and efficient communication during emergencies. 3. Eliminate the current power restrictions and allow amateur operators to use the same power output as on 7 and 3.5 MHz, frequencies which are similar in propagation characteristics."

I agree the new non channelized allocation should be reserved for more efficient narrow band digital modes and CW.

I agree we need to revisit the antenna gain restrictions, as noted in my comment about Bonnie Crystal's innovative design of the broad band horizontal loop NVIS antenna.

I disagree in that the power levels on 3.5 and 7 MHz are inappropriate for 60 meters or 5 MHz. The other bands are not shared with primary users, and the potential interference to them is not a problem there. The other bands are frequently used for world wide communication. The intended use of 5 MHz is for regional emergency communications and point to point medium and local ranges. Again, I recommend 30 watts max, 500 Hz max band width. But in no case should anything in excess of ARRL's recommended 100 watts PEP max even be considered.

I disagree with the filing by Kenneth J. Hendrickson Mar 13, 2017:

"I favor expanding the amateur 60 meter band (at approx. 5 MHz) from the existing 5 channels to a span of frequencies, at least as wide as the European allocation and overlapping it, allowing all modes of communication, and power levels up to **1000 Watts.** I have an extra class amateur radio license."

We have made effective use of the existing 60 meter channels at the 100 watt level. **We have done so without any incident of interference with primary users. That is likely NOT to be the case at 1000 watts. If both stations are at similar power level and on frequency, communication between the primary user and the amateur station will likely be established. This is not as likely, particularly if we are not both "on channel" as noted in my previous filing:**

https://ecfsapi.fcc.gov/file/10311021469888/RM-11785%20COMMENTS.pdf

If the amateur station is at the considerably higher level of 1000 Watts, and they are not on the same frequency, the primary user may not be able to gain control of the channel needed for emergency or government business.

I disagree with Ray Soifer Mar 17, 2017 for the same reasons:

"I am a radio amateur, holding an Extra Class license, who makes active use of the 5 MHz frequencies currently permitted. I also hold a BSEE degree from Massachusetts Institute of Technology. Amateurs have been using these channels for many years, with no recorded instances of harmful interference to the government stations who are the primary users. Drawing on this experience, I urge the Commission to permit amateurs to use the entire 60-meter band, with power, antennas and emissions similar to those currently authorized in the 40-meter and 80-meter bands."

60 meters is not comparable to the 80 and 40 meters because there are no primary users on those allocations. If long haul communications requiring substantially more power, such antennas and equipment should be employed on those frequencies. **The 60 meter band's value is in providing regional communications, such as for the Caribbean, not world wide communication. In this case, the commenter is requesting more than 500 or 1000 watts, he is asking for 1500 watts.**

I agree with some points raised by Scott Wright Mar 15, 2017:

"I am writing in regard to the use of the 60 meter high frequency band. The National Association for amateur radio - ARRL has suggested some changes to the band but the task force who approved these recommendations are not active hobbyists who use these frequencies and therefore lack full expertise to recommend changes. I have operated from the USA and also have performed operations from outside the USA with an appropriate license from the host country. My comments reflect my experience as a user and hobbyist. **The overarching purpose of this band is to facilitate communication in the event of emergencies from the Caribbean to North America and vice versa.** The propagation characteristics of these frequencies and the current restrictions on antenna gain and channelized operations make it exceedingly difficult to complete two way propagation, and I speak from first hand experience having operated from a Caribbean location in testing this. As expected there have been no reports of interference to primary users from the amateur population over the past ten years or so. The hobbyists in amateur radio as well as those who specifically operate on the 60 meter band take great efforts not to transmit interfering signals. To facilitate communications between North America and the rest of the world, as well as to improve the likelihood of the effectiveness of such communications, I support the following modifications and urge the commission to adopt them: 1. Eliminate the channelized restrictions and **allow full use of the spectrum including more efficient digital modes** like morse code. One signal can operate per channel while ten operators could use the equivalent frequency with CW. 2. Eliminate the 0dBd gain **antenna restriction**. This frequency in particular relies on multi-skip propagation for effective communication. Antennas with greater than 0dBd gain are essential for full and efficient communication during emergencies. 3. Eliminate the current **power restrictions** and allow amateur operators to use the same power output as on 7 and 3.5 mHz, frequences similar in propagation characteristics. Surely the ten year test period has convinced the FCC that this frequency is being used responsibly and has great potential. The amateur community does not need the restrictions of the old CB radio service with channelized and power output restrictions. Thank you for considering these requests."

He is right that the new non channelized allocation of 60 meters is better put to use by narrow band modes and should be limited to 500 Hz max DATA/CW, not SSB or wide band digital. I agree with revisiting antenna specifications is in order. Some reasonable revision to optimize NVIS performance will improve emergency communications. I also agree that channelized "CB" style allocation in this new allocation is wasteful.

I disagree only on his statement of power levels of **1500 watts**. If FCC decides to set the level at the ARRL recommended 100 watts, so be it. **But anything in excess of 100 watts is going to result in unacceptable interference with primary users. It also is going to hamper communications between lower power cw/data or emergency operations running from battery power.**

SUMMARY AND CONCLUSION:

I applaud that the enthusiasm of a diverse group of commenters is being heard in this open forum, not a closed “focus group”.

I am encouraged that diverse and constructive debate is occurring. I am pleased that FCC is using this process to gather data and carefully consider it before ruling on this long awaited improvement to the amateur service.

I wish to restate my support for most all of the original ARRL petition, Matthew Pitts' comments, and the institution of a 500 Hz band width and 30 watt power limit in the new proposed 60 meter non channelized allocation.

Respectfully submitted,
/s/
Janis Carson, AB2RA, Extra Class, licensed since 1959, ARRL member 40 years.